SMART CITY TO PHIYSICAL THINGS

Chavan Pratiksha ,Mhetre Sarika ,Patil Snehal, Rohini .P.Onkare

Chavan Pratiksha V.(BE ENTC) Sangli , Mhetre Sarika P.,(BE ENTC) Sangli, Patil Snehal S.(BE ENTC) Sangli. Assistant Professor Rohini .P.Onkare, Dept. Of Electronics and Telecommunicationl Engineering , PVPIT Budhgaon Maharashtra, India

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Abstract - This project is totally based on Microcontroller AT89C51 and on wireless module which is GSM SIM 800 ,with the help of this we are trying to implement to build up a city as a smart city . In our city many times we see that the garbage bins or dustbins placed at public places are overflowing. It creates unhygienic conditions for people. So by keeping this in mind we have built up a garbage level detection system . Many of the times we see that there is chance of catching fire in homes, shops ,stores, malls etc.

Key Words: Microcontroller, IR Sensing unit, GSM, LCD ,realy circuit

1.INTRODUCTION

This project is totally based on icrocontroller AT89C51 and on wireless module which is GSM -SIM 800, with the help of this we are trying to implement to build up a city as a smart city. In our city many times we see that the garbage bins or dustbins placed at public places are overflowing. It creates unhygienic conditions for people. So by keeping this in mind we have built up a garbage level detection system .In many homes, we see that there is problem of leakage in rainy season because of this problems we have introduced a system known water leakage detection .Sometimes in home appliances there is the problem of earthing, if a fault occurs it can conduct a light supply conductor to a human and receive an electric shock. So to avoid this we have introduced a device known earthing fault. In a normal society there are meeting kept by the authority, so they send the messages through post letters this process takes a lot of time and many of times residence can't receive their letters. So to overcome this we have introduced meeting SMS based on one switch which works on GSM module, within one click the message will be sent to all the residences.

Many of the times we see that there is chance of catching fire in homes, shops, stores, malls etc. By

employing the concept of wireless technology within the field of communication we are able to create our communication more economical, and faster, with greater efficiency. We can display the messages and with less errors and maintenance. With advancement of technology things are becoming simpler and easier for us. Automation is the use of control systems and information technologies to reduce the need for human work in the production of goods and services. Moreover, owner can control loads (on/off) automatically by mobile using GSM technology from anywhere. Overall this project discusses the analysis, design and implementation of city automation.
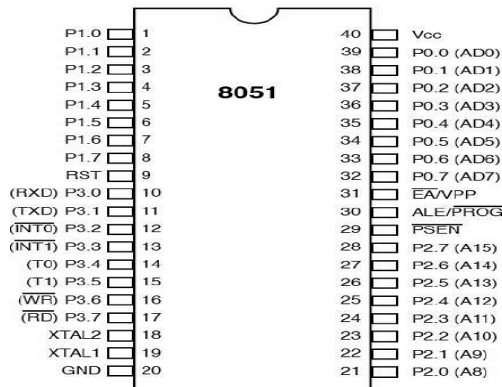
1.GSM

Which is GSM SIM 800, with the help of this we are trying to implement to build up a city as a smart city. In our city many times we see that the garbage bins or dustbins placed at public places are overflowing. It creates unhygienic conditions for people. So by keeping this in mind we have built up a garbage level detection system. The various devices in our project like microcontroller GSM module. Accident key, IR sensor, LDR. LCD, Relay light.

2.LCD

In this project 16*2 LCD display are used to send the message. A light dependent resistor also known as a LDR, photoresist or, photoconductor or, is a resistor whose resistance increases or decreases depending on the amount of light intensity.

3.MICROCONTROLLER

In this project is totally based on Microcontroller AT89C51 used it is the 40 pin IC .firstly ,the two IR sensor are sense the garbage level and then GSM serially send the message central government using LCD display .Secondly Accident key are used to detect the accident location, When the press Accident key at the point and send the emergency message police and Ambulance using LCD display .The third unite are street light ,LDR are used to the street light when night light is automatically turn on otherwise turn off the light .In our project 230 v power supply are convert 5v using 7805 regulator this 5v are provided to all circuit . There are two capacitor to filtering and another is external capacitor

4.IR SENSOR

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The IR Sensor measures infrared radiation intensity over a broad spectrum, allowing students to study a variety of phenomena including blackbody radiation, the Stefan-Boltzmann law, and heat flow by radiation, solar radiance and non-contact temperature measurement. It measures radiation intensity up to 4500 W/m2. An integrated thermistor measures the temperature of the detector allowing the user to calculate detector-emitted radiation The sensor's silicon-based thermopile encapsulated in nitrogen with a thallium bromide-iodide (KRS-5) window has a flat spectral response from 0.7 to 30 μm. It measures radiation intensity up to 4500 W/m2
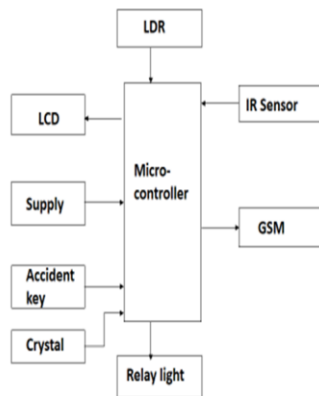
LDR

A light dependent resistor also known as a LDR, photoresist or, photoconductor or, is a resistor whose resistance increases or decreases depending on the amount of light intensity. LDRs (Light Dependent Resistors) are a very useful tool in a light/dark circuits. A LDRs can have a variety of resistance and functions. The way an LDR works is that they are made of many semi-conductive materials with high resistance

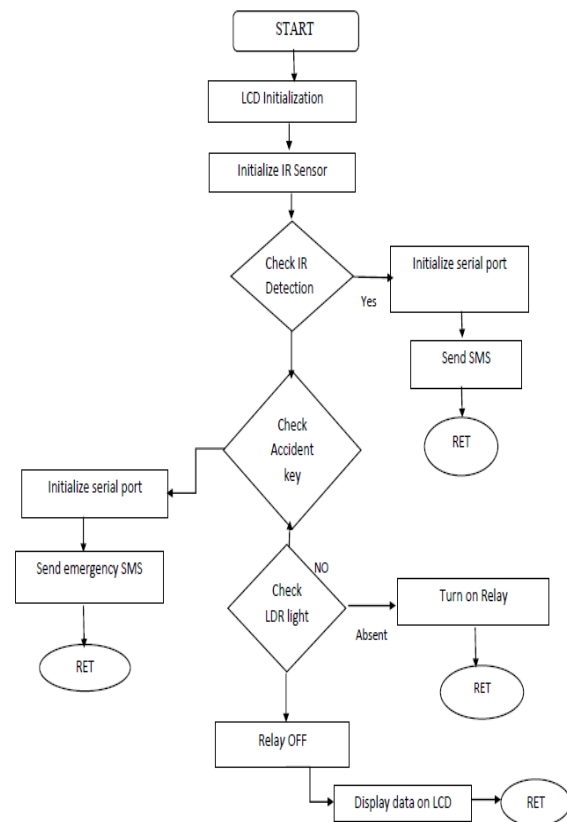| SR.NO	COMPONENTS	RATINGS
1	GSM Module	5 v
2	Microcontroller	5 v
3	Power supply	12 v
4	Relays	12 v I/P
5	LCD displays	16*2
6	Resistors,Capacitors ,Diode	1k ohm 50F
7	Crystals oscillators,LED's	_

BLOCK DIAGRAM

In our city many times we see that the garbage bins or dustbins placed at public places are overflowing. It creates unhygienic conditions for people. So by keeping this in mind we have built up a garbage level detection system. The various devices in our project like microcontroller GSM module. Accident key, IR sensor, LDR. LCD, Relay light.

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FLOWCHART

ADVANTAGES

➢ This project requires less man power.
➢ Smart city includes garbage level detection facility to provides SMS to authorize organization .
➢ To becomes a city modern and developed by using advanced technology .
➢ Accident detection module gives an alert message to society to prevent any accidental problem .
➢ To make a city clean, secure and smarter.

Applications

➢ Shopping Malls
➢ Societies
➢ Shops
➢ Hospitals
➢ Home Appliances

Future Scope

This project is used to control devices through SMS .Atmega8 is used here to interact with the GSM Modem. The modem used in this project is based on SIM300 module with TTL interface. The modem is controlled through the AT commands .They system is protected by a password and rather person who knows the password can control the devices.

3. CONCLUSIONS

By employing the concept of wireless technology within the field of communication we are able to create our communication more economical, and faster, with greater efficiency. We can display the messages and with less errors and maintenance. With advancement of technology things are becoming simpler and easier for us. Automation is the use of control systems and information technologies to reduce the need for human work in the production of goods and services. Moreover, owner can control loads (on/off) automatically by mobile using GSM technology from anywhere. Overall this project discusses the analysis, design and implementation of city automation

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